AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1- 4. (Canceled).

5. (Currently Amended) A plasma processing method for performing plasma processing by using a plasma processing system comprising a chamber for housing a substrate-to-be-processed; a belljar disposed on the chamber in communication with the chamber and having a side wall and a top wall of an insulator; a conducting mount disposed in the chamber, for the substrate-to-be-processed to be mounted on; an antenna means disposed on the outside of the side wall of the belljar, for generating induced electromagnetic fields in the belljar; a first high-frequency electric power source for supplying high-frequency electric power to the antenna means; gas supply means for supplying a plasma generating gas which is dissociated by the induced electromagnetic fields generated by the antenna means to be plasmas, and a processing gas for the plasma processing; a conducting member disposed upper of the top wall, opposed to the mount, and being permanently grounded; and a second high-frequency electric power source for supplying high-frequency electric power to the mount,

high-frequency electric power being supplied from the second high-frequency electric power source to the mount to generate electric fields between the mount and the conducting member and to ignite plasmas based on only the high frequency power from said mount to said grounded conducting member,

after ignition is achieved with said second high-frequency electric power source, high-frequency electric power being supplied from the first high-frequency electric power source to the antenna means is initiated to generate induced electromagnetic fields in the belljar and generate inductive coupled plasmas, and then, the second high-frequency electric power source being stopped from supplying high-frequency electric power to the mount after the first high-frequency electric power source has started the supply of the

high-frequency electric power to the antenna means so that high-frequency electric power is supplied only to the antenna means, whereby the plasma processing is made on the substrate-to-be-processed, and wherein the plasma processing is carried out at a process chamber pressure of 0.1 to 100 mTorr.

6. (Currently Amended) A plasma processing method for performing plasma processing by using a plasma processing system comprising a chamber for housing a substrate-to-be-processed; a belljar disposed on the chamber in communication with the chamber and having a side wall and a top wall of an insulator; a conducting mount disposed in the chamber, for the substrate-to-be-processed to be mounted on; an antenna means disposed on the outside of the side wall of the belljar, for generating induced electromagnetic fields in the belljar; a first high-frequency electric power source for supplying high-frequency electric power to the antenna means; gas supply means for supplying a plasma generating gas which is dissociated by the induced electromagnetic fields generated by the antenna means to be plasmas, and a processing gas for the plasma processing; a Faraday shield disposed between the belljar and the antenna means; a conducting member disposed upper of the top wall, opposed to the mount, and being permanently grounded; and a second high-frequency electric power source for supplying high-frequency electric power to the mount,

high-frequency electric power being supplied from the second high-frequency electric power source to the mount to generate electric fields between the mount and the conducting member and to ignite plasmas based on only the high frequency power from said mount to said grounded conducting member,

after ignition is achieved with said second high-frequency electric power source, high-frequency electric power being supplied form the first high-frequency electric power source to the antenna means is initiated to generate induced electromagnetic fields in the belljar to generate inductive coupled plasmas, and then, the second high-frequency electric power source being stopped from supplying high-frequency electric power to the mount after the first high-frequency electric power source has started the supply of the high-frequency electric power to the antenna means so that high-frequency electric power

is supplied only to the antenna means, whereby the plasma processing is made on the substrate-to-be-processed, and wherein the plasma processing is carried out at a process chamber pressure of 0.1 to 100 mTorr.

7. (Canceled).

8. (Previously Presented) A plasma processing method according to claim 5, wherein

the plasma processing is performed while the substrate-to-be-processed is being heated.

9. (Original) A plasma processing method according to claim 8, wherein

the plasma processing is for removing natural oxide films formed on the substrate-to-be-processed.

10. (Original) A plasma processing method according to claim 9, wherein

the plasma generating gas and the processing gas are argon gas and hydrogen gas.

11. (Previously Presented) A plasma processing method according to claim 10, wherein the first high-frequency electric power source is connected to an upper end portion of the antenna means.

12-13. (Canceled).

14. (Previously Presented) A plasma processing method according to claim 5, wherein after the induced electromagnetic fields are generated, said second high-frequency electric power source is shut down.

15. (Canceled).

16. (Previously Presented) A plasma processing method according to claim 6, wherein the plasma processing is performed while the substrate-to-be-processed is being heated.

17. (Previously Presented) A plasma processing method according to claim 16, wherein the plasma processing is for removing natural oxide films formed on the substrate-to-be-processed.

18. (Previously Presented) A plasma processing method according to claim 17, wherein the plasma generating gas and the processing gas are argon gas and hydrogen gas.

19. (Previously Presented) A plasma processing method according to claim 18, wherein the first high-frequency electric power source is connected to an upper end portion of the antenna means.

20. (Previously Presented) A plasma processing method according to claim 6, wherein after the induced electromagnetic fields are generated, said second high-frequency electric power source is shut down.

21. (Previously Presented) A plasma processing method according to claim 5, wherein said conducting member has a surface which opposes said belljar that is a flat surface.

22. (Previously Presented) A plasma processing method according to claim 21 wherein said conducting member is a flat disc object.

23. (Previously Presented) A plasma processing method according to claim 5 wherein said grounded conducting member is not directly electrically coupled to a high-frequency electric power source.

24. (Previously Presented) A plasma processing method according to claim 6, wherein said conducting member has a surface which opposes said belljar that is a flat surface.

25. (Previously Presented) A plasma processing method according to claim 24 wherein said conducting member is a flat disc object.

26. (Previously Presented) A plasma processing method according to claim 6 wherein said grounded conducting member is not directly electrically coupled to a high-frequency electric power source.

27. (Currently Amended) A plasma processing method for performing plasma processing by using a plasma processing system comprising a chamber for housing a substrate-to-be-processed; a belljar disposed on the chamber in communication with the chamber and having a side wall and an insulator top wall; a conducting mount disposed in the chamber, for the substrate-to-be-processed to be mounted on; an antenna means disposed on the outside of the side wall of the belljar, for generating induced electromagnetic fields in the belljar; a first high-frequency electric power source for supplying high-frequency electric power to the antenna means; gas supply means for supplying a plasma generating gas which is dissociated by the induced electromagnetic fields generated by the antenna means to be plasmas, and a processing gas for the plasma processing; a conducting member that is opposed to said mount and disposed external to said belljar upper of the insulator top wall, said conducting member being grounded; and a second high-frequency electric power source for supplying high-frequency electric power to the mount,

high-frequency electric power being supplied from the second high-frequency electric power source to the mount to generate electric fields extending vertically from the mount toward the grounded conducting member and to ignite plasmas based on the high frequency power provided to said mount, and said grounded conducting member

being arranged within the plasma processing system so as to be permanently and at all times free from direct electrical connection with a high-frequency electric power source, and then, after ignition is achieved with said second high-frequency electric power source, high-frequency electric power being supplied from the first high-frequency electric power source to the antenna means is initiated to generate induced electromagnetic fields in the belljar and generate inductive coupled plasmas, whereby the plasma processing is made on the substrate-to-be-processed, and wherein the plasma processing is carried out at a process chamber pressure of 0.1 to 100 mTorr.

28. (Previously Presented) A plasma processing method according to claim 27, wherein the supply of high-frequency electric power from the first high frequency electric power source to the antenna means is started to generate induced electromagnetic fields in the belljar while the supply of high frequency electric power from the second high-frequency electric power source to the mount is stopped.

29. (Previously Presented) A plasma processing method according to claim 27, wherein plasma ignition is based on only high-frequency electric power generated by said second high-frequency electric power source, and

wherein the second high-frequency electric power source stops supplying high-frequency electric power to the mount after the first high-frequency electric power source has started the supply of the high-frequency electric power to the antenna means so that high-frequency electric power is supplied thereafter only to the antenna means.

30. (Previously Presented) A plasma processing method according to claim 5, wherein the supply of high-frequency electric power from the first high frequency electric power source to the antenna means is started while the supply of high frequency electric power from the second high-frequency electric power source to the mount is stopped.

31. (Previously Presented) A plasma processing method according to claim 10, wherein the hydrogen gas supply is started while the argon gas supply is decreased.

32. (New) A plasma processing method according to claim 5, wherein upon the supply of second high-frequency electric power being stopped there is avoided capacitive coupling activity between, and based on, said mount and conducting member.

33. (New) A plasma processing method according to claim 6, wherein upon the supply of second high-frequency electric power being stopped there is avoided capacitive coupling activity between, and based on, said mount and conducting member.

34. (New) A plasma processing method according to claim 28, wherein upon the supply of second high-frequency electric power being stopped there is avoided capacitive coupling activity between, and based on, said mount and conducting member.